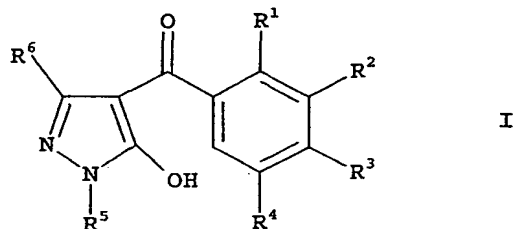


We claim:

1. A synergistic herbicidal mixture comprising

- 5 A) at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I



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in which the variables have the following meanings:

15 R^1 , R^3 are halogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_1 - C_6 -alkylthio, C_1 - C_6 -alkylsulfinyl or C_1 - C_6 -alkylsulfonyl;

20 R^2 is a heterocyclic radical selected from the group: isoxazol-3-yl, isoxazol-4-yl, isoxazol-5-yl, 4,5-dihydroisoxazol-3-yl, 4,5-dihydroisoxazol-4-yl and 4,5-dihydroisoxazol-5-yl, it being possible for the six radicals mentioned to be unsubstituted or mono- or polysubstituted by halogen, C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy, C_1 - C_4 -haloalkyl, C_1 - C_4 -haloalkoxy or C_1 - C_4 -alkylthio;

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R^4 is hydrogen, halogen or C_1 - C_6 -alkyl;

R^5 is C_1 - C_6 -alkyl;

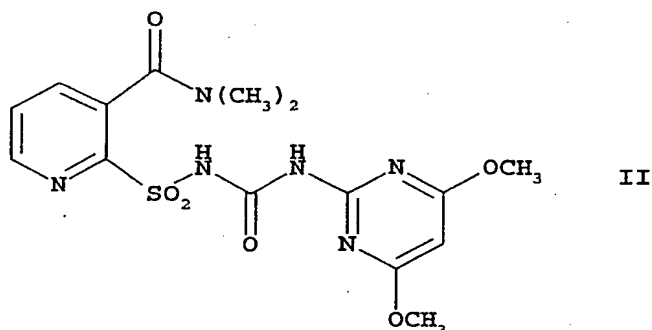
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R^6 is hydrogen or C_1 - C_6 -alkyl;

or one of its environmentally compatible salts;

and

B) the compound of formula II



or one of its environmentally compatible salts;

and,

C) at least one herbicidal compound from the group of the acetolactate synthase inhibitors (ALS), lipid biosynthesis inhibitors and photosynthesis inhibitors;

in a synergistically effective amount.

2. A synergistic herbicidal mixture as claimed in claims 1, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where R⁴ is hydrogen.

3. A synergistic herbicidal mixture as claimed in any of claims 1 to 2, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where

R¹ is halogen, C₁-C₆-alkyl or C₁-C₆-alkylsulfonyl;

R³ is halogen or C₁-C₆-alkylsulfonyl;

4. A synergistic herbicidal mixture as claimed in any of claims 1 to 3, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where

R² is a heterocyclic radical selected from the group:
isoxazol-3-yl, isoxazol-5-yl and 4,5-dihydroisoxazol-3-yl, it being possible for the three radicals mentioned
5 to be unsubstituted or mono- or polysubstituted by
halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy or C₁-C₄-alkylthio.

5. A synergistic herbicidal mixture as claimed in any of
10 claims 1 to 4, comprising, as component A), a 3-heterocyclyl-substituted benzoyl derivative of the formula I, where

R² is isoxazol-5-yl, 3-methyl-isoxazol-5-yl, 4,5-dihydro-
15 isoxazol-3-yl, 5-methyl-4,5-dihydroisoxazol-3-yl, 5-ethyl-4,5-dihydroisoxazol-3-yl or 4,5-dimethyl-4,5-dihydroisoxazol-3-yl.

6. A synergistic herbicidal mixture as claimed in any of
20 claims 1 to 5, comprising, as component A), 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole.

7. A synergistic herbicidal mixture as claimed in any of
25 claims 1 to 5, comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole.

8. A synergistic herbicidal mixture as claimed in any of
30 claims 1 to 7, comprising, at least three active ingredients, a 3-heterocyclyl-substituted benzoyl derivative of the formula I (component A) as claimed in claims 1 to 7, the compound of formula II (component B) and

- 35 C) at least one herbicidal compound from the groups C1 to C3:

C1 acetolactate synthase inhibitors (ALS):

imidazolinones, pyrimidyl ethers, sulfonamides or sulfonylureas;

C2 lipid biosynthesis inhibitors:

5 anilides, chloroacetanilides, thioureas, benfuresate or perfluidone;

C3 photosynthesis inhibitors:

10 propanil, pyridate, pyridafol, benzothiadiazinones, dinitrophenols, dipyridylenes, ureas, phenols, chloridazon, triazines, triazinones, uracils or biscarbamates;

or their environmentally compatible salts.

15 9. A synergistic herbicidal mixture as claimed in claims 1 or 8, comprising, as component C), at least one herbicidal compound from the groups C1 to C3:

C1 acetolactate synthase inhibitors (ALS):

20 - imidazolinones:

imazapyr, imazaquin, imazamethabenz-methyl (imazame), imazamox, imazapic, imazethapyr or imazamethapyr;

- pyrimidyl ethers:

25 pyriithiobac-acid, pyriithiobac-sodium, bispyribac-sodium, KIH-6127 or pyribenzoxym;

- sulfonamides:

florasulam, flumetsulam or metosulam; or

- sulfonylureas:

30 amidosulfuron, azimsulfuron, bensulfuron-methyl, chlorimuron-ethyl, chlorsulfuron, cinosulfuron, cyclosulfamuron, ethametsulfuron-methyl, ethoxysulfuron, flazasulfuron, halosulfuron-methyl, imazosulfuron, metsulfuron-methyl, primisulfuron-methyl, prosulfuron, pyrazosulfuron-ethyl, rimsulfuron, sulfometuron-methyl, thifensulfuron-methyl, triasulfuron, tribenuron-methyl, triflurosulfuron-methyl, N-[[[4-methoxy-6-(trifluoromethyl)-1,3,5-

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triazin-2-yl]amino]-carbonyl]-2-(trifluoromethyl)-
benzenesulfonamide, sulfosulfuron or idosulfuron;

C2 lipid biosynthesis inhibitors:

- 5 - anilides:
 anilofos or mefenacet;
- chloroacetanilides:
 dimethenamid, S-dimethenamid, acetochlor,
 alachlor, butachlor, butenachlor, diethatyl-ethyl,
10 dimethachlor, metazachlor, metolachlor, S-
 metolachlor, pretilachlor, propachlor, prynachlor,
 terbuchlor, thenylchlor or xylachlor;
- thioureas:
 butylate, cycloate, di-allate, dimepiperate, EPTC,
15 esprocarb, molinate, pebulate, prosulfocarb,
 thiobencarb (benthiocarb), tri-allate or ver-
 nolate; or
- benfuresate or perfluidone;

20 C3 photosynthesis inhibitors:

- propanil, pyridate or pyridafol;
- benzothiadiazinones:
 bentazone;
- dinitrophenols:
25 bromofenoxim, dinoseb, dinoseb-acetate, dinoterb
 or DNOC;
- dipyridylenes:
 cyperquat-chloride, difenzoquat-methylsulfate,
 diquat or paraquat-dichloride;
- 30 - ureas:
 chlorbromuron, chlorotoluron, difenoxuron, dimefu-
 ron, diuron, ethidimuron, fenuron, fluometuron,
 isoproturon, isouron, linuron, methabenzthiazuron,
 methazole, metobenzuron, metoxuron, monolinuron,
35 neburon, siduron or tebuthiuron;
- phenols:
 bromoxynil or ioxynil;
- chloridazon;
- triazines:

- ametryn, atrazine, cyanazine, desmetryn, dimethamethryn, hexazinone, prometon, prometryn, propazine, simazine, simetryn, terbumeton, terbutryn, terbutylazine or trietazine;
- 5 - triazinones:
 metamitron or metribuzine;
- uracils:
 bromacil, lenacil or terbacil; or
- biscarbamates:
10 desmedipham or phenmedipham

or their environmentally compatible salts.

10. A synergistic herbicidal mixture as claimed in claim 9,
15 comprising, as component C), at least one herbicidal compound from the group C1.
11. A synergistic herbicidal mixture as claimed in claim 10
20 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a sulfonylureas from the group C1.
- 25 12. A synergistic herbicidal mixture as claimed in claim 10
 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) rimsulfuron.
- 30 13. A synergistic herbicidal mixture as claimed in claim 9
 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a herbicidal compound from the
35 group C2.
14. A synergistic herbicidal mixture as claimed in claim 13
 comprising, as component A) 4-[2-methyl-3-(4,5-dihydro-

isoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a chloroacetanilide from group C2.

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15. A synergistic herbicidal mixture as claimed in claim 13, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) dimethenamid or S-dimethenamid.

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16. A synergistic herbicidal mixture as claimed in claim 9 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a herbicidal compound from the group C3.

15

17. A synergistic herbicidal mixture as claimed in claim 16 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a triazine from group C3.

20

18. A synergistic herbicidal mixture as claimed in claim 16, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) atrazine.

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19. A synergistic herbicidal mixture as claimed in claim 16 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a benzothiadiazionone from group C3.

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20. A synergistic herbicidal mixture as claimed in claim 16, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxa-

zol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) bentazone.

- 5 21. A synergistic herbicidal mixture as claimed in claim 9 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a herbicidal compound from the
10 group C1 and a herbicidal compound from the C3.
22. A synergistic herbicidal mixture as claimed in claim 9, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as
15 component C) rimsulfuron and atrazine.
23. A synergistic herbicidal mixture as claimed in claim 9 comprising, as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as component C) a herbicidal compound from the
20 group C2 and a herbicidal compound from the C3.
24. A synergistic herbicidal mixture as claimed in claim 9, comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, as component B) the compound of formula II and as
25 component C) dimethenamid and atrazine or S-dimethenamid and atrazine.
30
25. Synergistic herbicidal mixture as claimed in any of claims 1 to 24, wherein component A) and B) are present in a weight ratio of 1:0.001 to 1:500.
35
26. Synergistic herbicidal mixture as claimed in any of claims 1 to 25, wherein component A) and component C) are present in a weight ratio of 1:0.002 to 1:800.

27. A herbicidal composition comprising a herbicidally active amount of a synergistic herbicidal mixture as claimed in any of claims 1 to 26, at least one inert liquid and/or solid carrier and, if desired, at least one surfactant.

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28. A process for the preparation of herbicidal compositions as claimed in claim 27, wherein component A), component B) and component C), at least one inert liquid and/or solid carrier and, if appropriate, a surfactant are mixed.

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29. A method of controlling undesired vegetation, which comprises applying a synergistic herbicidal mixture as claimed in any of claims 1 to 26 before, during and/or after the emergence of undesired plants, it being possible for the herbicidally active compounds of components A), B) and C) to be applied simultaneously or in succession.

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30. A method of controlling undesired vegetation as claimed in claim 29, wherein the leaves of the crop plants and of the undesired plants are treated.

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